Message

From: Dunn, Alexandra [dunn.alexandra@epa.gov]
Sent: 4/9/2019 8:30:14 AM
To: Strauss, Linda [Strauss.Linda@epa.gov]
CC: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Baptist, Erik [Baptist.Erik@epa.gov]; Dunton, Cheryl [Dunton.Cheryl@epa.gov]; Tyler, Tom [Tyler.Tom@epa.gov]; Morris, Jeff [Morris.Jeff@epa.gov]; Henry, Tala [Henry.Tala@epa.gov]; Hartman, Mark [Hartman.Mark@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]; Messina, Edward [Messina.Edward@epa.gov]; Pierce, Alison [Pierce.Alison@epa.gov]; Blair, Susanna [Blair.Susanna@epa.gov]; Sisco, Debby [Sisco.Debby@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Siedschlag, Gregory [Siedschlag.Gregory@epa.gov]; Han, Kaythi [Han.Kaythi@epa.gov]; Hughes, Hayley [hughes.hayley@epa.gov]; Altieri, Sonia [Altieri.Sonia@epa.gov]
Subject: Re: 1st set of clips! OPPT/OPP/OCSP Clips 4/8

I'll share feedback when we meet - seeing the list of keywords will be helpful.

Alexandra Dapolito Dunn, Esq.
Assistant Administrator

Office of Chemical Safety & Pollution Prevention

U.S. Environmental Protection Agency

Washington, DC

Sent from my iPhone

On Apr 8, 2019, at 8:41 PM, Dunn, Alexandra <dunn.alexandra@epa.gov> wrote:

> Fantastic! What an improvement. One OCSPP!
>
> Alexandra Dapolito Dunn, Esq.
> Assistant Administrator
>
> Office of Chemical Safety & Pollution Prevention
>
> U.S. Environmental Protection Agency
>
> Washington, DC
>
> Sent from my iPhone
>
> On Apr 8, 2019, at 6:49 PM, Strauss, Linda <Strauss.Linda@epa.gov> wrote:
>
> > Wonderful Sara Mack, an intern in OA, has prepared these clips for OCSPP. This week will be a "trial balloon. We will send you the clips and get feedback from you on ways to make the news clips more useful. I'll be working with Sara and Anthony to refine. Thank you, Alison Pierce, Greg Siedschlag, Debby Sisco, Nina Naimy, and Barbara Tanner for helping with "key words" to search for and other information.

For this "trial balloon," I am only sending to a limited group of individuals. Let me know if you have feedback.

Thanks.

From: Mack, Sara
Sent: Monday, April 8, 2019 5:06 PM
To: Strauss, Linda <Strauss.Linda@epa.gov>
Cc: Grantham, Nancy <Grantham.Nancy@epa.gov>
Subject: OPPT/OPP/OCSP Clips 4/8

OPPT/OPP/OCSP Clips

April 8, 2019

Chemical Risk Evaluation

The National Law Review: EPA Releases Budget Justification that Increases Budget for Chemical Risk, Review, and Reduction Program

Dicamba

Successful Farming: What Farmers Need to Know About Burndown Herbicides

Lead

Chicago Tribune: EPA plans to remove contaminated soil from 167 East Chicago homes in 2019 **(April 6, 2019)**

Star Tribune: EPA aims to remove polluted soil from 167 East Chicago homes

Military and toxics

Associated Press: States, military, clash on cleanup of toxic chemicals **(April 6, 2019)**

Military Times: Lawmakers seek treatments for veterans exposed to chemicals **(April 7, 2019)**

Pesticides

Bloomberg Environment: Some Links to Cancer Shown in Draft Review of Common Pesticide

The Epoch Times: Worried About Pesticide Exposure? Here's What Your Need to Know

PFAS

Bangor Daily News; Maine hospital lands $2.2 million for obesity study

Chemical & Engineering News: The hunt is on for GenX chemicals in people **(April 7, 2019)**

The Progressive Pulse: Bills would crack down on polluters, set "precautionary" standard for PFAS and other emerging compounds

Toxic Chemicals

KERA News: 3 Proposals To Help Avoid The Next Deer Park Chemical Plant Fire

9 news: Factory operator 'had chemical drum explode in his face' in toxic Melbourne inferno **(April 6, 2019)**

Toxics Data

Bloomberg Environment: EPA Watchdog Raises Alarm on Toxic Chemical Release Reports

E&E News: Watchdog finds inaccuracies in EPA toxics data

Chemical Risk Evaluation

The National Law Review

EPA Releases Budget Justification that Increases Budget for Chemical Risk, Review, and Reduction Program

The National Law Review: EPA Releases Budget Justification that Increases Budget for Chemical Risk, Review, and Reduction Program

Lynn Burgeson, Margaret Graham

Posted: April 8, 2019

On March 11, 2019, the U.S. Environmental Protection Agency (EPA) released its Fiscal Year (FY) 2020 Justification of Appropriation Estimates for the Committee on Appropriations. EPA's budget request reduces the overall budget by $2.76 billion (31 percent), to $6.068 billion, but requests $66.418 million to support its Chemical Risk Review and Reduction (CRRR) program, an increase of $5.313 million.

EPA zeros out the other programs under Toxics Risk Review and Prevention, however, including the Endocrine Disruptor Screening Program (EDSP), the Pollution Prevention (P2) program, and the Lead Risk Reduction Program. EPA states that it will "absorb the remaining functions [of the EDSP] within the Pesticides Program using the currently available tiered testing battery," "continue to meet core statutory requirements under the Pollution Prevention Act of 1990 in

other programs," and that "lead paint certifications will continue under the [CRRR] Program."

In its budget, EPA states that "the resources requested by EPA will support continued implementation of the amendments to [the Toxic Substances Control Act (TSCA)], with emphasis on the critical mandates and timelines applicable to pre-market review of new chemicals, chemical risk evaluation and management, review and determinations on incoming [confidential business information (CBI)] claims, and other statutory priorities." EPA anticipates an increased workload to support these efforts in **FY 2020**as the Agency reaches statutory deadlines to conclude the first ten risk evaluations for existing chemicals, and initiate risk management regulatory actions as necessary. As part of this work load, EPA lists its primary TSCA implementation activities under Sections 4, 5, 6, 14; its other TSCA mandates and activities under Section 8; and the information technology systems being developed in support of TSCA implementation, all of which are extensive.

Dicamba

Successful Farming

What Farmers Need to Know About Burndown Herbicides

Successful Farming: What Farmers Need to Know About Burndown Herbicides

Gil Gullickson

Posted: April 8, 2019

Farmers who weren't able to apply herbicide last fall should consider a burndown treatment as soon as possible this spring.

"The earlier we get them out on small weeds, the better," says Joe Bolte, a Practical Farm Research (PFR) operator and herbicide specialist for Beck's Hybrids based in Effingham, Illinois.

Fall treatments are particularly preferable for winter annuals like marestail, as they nix small weeds that otherwise would come back in the spring.

However, it was all many farmers could do last fall to harvest their crops, let alone apply herbicides to control winter annuals like marestail. Although time is tight, a burndown application now can kill marestail before it bolts, he says.

Burndowns are critical for no-tillers, he adds. "If you don't apply a burndown pass, you get a weedy mess out there (at planting)," he says. "By doing a burndown pass, you make sure those weeds are dead before no-tilling."

For those who mix in tillage, adding a burndown followed by vertical tillage can control weeds better than just a tillage pass alone, he says.

Burndown treatments have other benefits besides weed control, Bolte adds. Winter annuals like henbit provide overwinter cover for soybean cyst nematode, for example.

"If you don't feel like you have time for a burndown and plan to till and then plant, put down a residual (herbicide) and then add something that has post activity – such as Gramoxone or Liberty," he says.

WHAT BURNDOWN TREATMENTS SHOULD YOU USE?

If it looks like there will be a window of time between your burndown and planting, consider a burndown herbicide with residual activity like Sharpen, says Bolte. A downside is residual burndown herbicides can have plantback restrictions.

If the time window is tight between burndown and planting, Bolte advises applying a herbicide with no plantback restriction, such as Gramoxone, says Bolte.

An old standby burndown herbicide combo is 2,4-D and dicamba. "Those are cheap and effective options, but they also have plantback restrictions," he says.

These burndown options contain the same chemical as is contained in Xtendimax/Engenia/Fexapan (dicamba) and Enlist Duo/Enlist One (2,4-D choline) applied postemergence in herbicide-tolerant soybean weed-management systems. Using the same herbicide site of action in burndown and preemergence applications as in postemergence applications increases selection pressure on weeds, says Bolte.

"Every time you apply a herbicide, you select for resistance," Bolte says. "It is critical to look at other burndown options so we can save growth regulators (Group 4) for in-season use," says Bolte.

Gramoxone, for example, is a Group 22 herbicide that has a different site of action then the Group 4 herbicides like 2,4-D and dicamba.

The good news is that several options now exist for postemergence applications in soybeans," says Bolte. "Now we have Enlist, Liberty, and Xtend (herbicide-tolerant weed-management systems). Ten years ago, we didn't have as many options."

Lead

Chicago Tribune

EPA plans to remove contaminated soil from 167 East Chicago homes in 2019

Chicago Tribune: EPA plans to remove contaminated soil from 167 East Chicago homes in 2019

Craig Lyons

Posted: 3:30pm, April 6, 2019

As the U.S. Environmental Protection Agency begins another season of residential cleanups in East Chicago, the agency says this could be the final year for removing lead- and arsenic-contaminated soil from around residents' homes.

The EPA debriefed residents Saturday on its planned cleanup activities at the U.S.S. Lead Superfund site, which encompasses East Chicago's Calumet neighborhood. During the 2019 season, the EPA plans to remove contaminated soil from at least seven properties in East Calumet and 160 in Calumet.

"Every year, we've made continuous progress," said Sarah Rolfes, an EPA remedial project manager.

Rolfes said if the properties targeted for remediation are completed and the EPA gets access for sampling and remediation at 28 properties in the neighborhood, it would conclude exterior residential cleanups.

Since 2016, the EPA has excavated 582 properties in the two residential zones of the Superfund site.

Debbie Chizewer, of Northwestern University's environmental advocacy clinic, who is working with the East Chicago Calumet Coalition organization, said residents want the EPA to expedite a study of the groundwater in the area to see if there's any risk for recontamination of properties that have been remediated.

Katherine Thomas, an EPA remedial project manager, said the EPA is still working on a groundwater study.

The groundwater investigation is part of a remedial investigation and feasibility study looking at the former U.S.S. Lead factory site, off Kennedy Avenue in East Chicago. The new remedial investigation will be focused on unexcavated areas of the site, the neighboring wetlands and groundwater in the surrounding neighborhood.

In November, the monitoring wells were installed throughout the Superfund site, Thomas said, and data is already being collected.

U.S.S. Lead operated its East Chicago facility from 1906 to 1985, according to the EPA, and in 1996 constructed a corrective action management unit where contaminated material from the then-shuttered company was contained to prevent further contamination of the surrounding area. The EPA said the company also built barriers to limit other contaminant exposure.

In 2009, the U.S.S. Lead site was listed on the national priorities list, according to EPA documents, and divided into two operable units, the former factory site and the residential area.

As the cleanup continues, Chizewer said the EPA could do more with health screening for residents that could offer more early detection for potential risks. Chizewer said many residences haven't been sampled for indoor lead dust, and little has been done to solve lead-based paint issues.

Chizewer said most residents are anxious about what the EPA will decide to do to remediate the former West Calumet Housing Complex so it returns to a productive use.

"That's something that's really important," Chizewer said.

Saturday's forum focused only on the site's two residential zones and did not provide new information on the cleanup plan for the former West Calumet Housing Complex.

The EPA says it is still reviewing public comments on the plan.

The EPA in November released its plan to clean up lead- and arsenic-contaminated soil at the now-vacant West Calumet Housing Complex and Goodman Park in East Chicago, which would mean removing two feet of contaminated soil and replacing it with clean fill.

The plan would mean digging up more than 160,000 cubic yards of contaminated soil, according to the EPA, and cost roughly $26 million. The EPA estimates the project would take seven months.

The EPA has held two public hearings on the plan for West Calumet, and residents have pushed for a more protective remedy, asking the agency to dig out more contaminated material that what the proposed plan calls for.

Star Tribune

EPA aims to remove polluted soil from 167 East Chicago homes

Star Tribune: EPA aims to remove polluted soil from 167 East Chicago homes

Associated Press

Posted: 11:40am, April 8, 2019

EAST CHICAGO, Ind. — The U.S. Environmental Protection Agency is preparing to excavate lead- and arsenic-tainted soil from around more than 160 homes in a northwestern Indiana city.

The EPA intends to remove polluted soil from about 167 properties in East Chicago's Calumet neighborhood, which is part of the U.S.S. Lead Superfund site.

The Post-Tribune reports EPA remedial project manager Sarah Rolfes said Saturday that the exterior residential cleanups would end this year if the properties targeted for remediation are completed and the agency receives access for sampling and remediation at 28 properties in the neighborhood.

In 2016, over 1,000 people were forced from the West Calumet Housing Complex after tests found high lead levels in blood samples from some children and some yards with lead levels over 70 times the U.S. safety standard.

Military and Toxics

Associated Press

States, military, clash on cleanup of toxic chemicals

https://www.apnews.com/e1ea9b09c6eb486b999c2318a8093669

Kyle Bagenstose and Jenny Wagner

Posted: April 6, 2019

HORSHAM, Pa. (AP) — The U.S. Department of Defense has quietly begun battling environmental regulators in several states, after the agencies attempted to force the military to clean toxic firefighting chemicals from polluted streams, marshes and aquifers. The efforts mark the opening acts of what could turn into a nationwide war on legal liabilities, which the Pentagon estimates could reach into billions of dollars as it investigates the presence of the chemicals at hundreds of bases across all 50 states.

Per- and poly-fluoroalkyl substances, or PFAS, have burst onto the national radar in recent years. Originally produced by companies 3M and DuPont, the chemicals are used in everything from Teflon pans to food packaging to water-resistant clothing. Scientists have linked some PFAS chemicals to health effects including ulcerative colitis, thyroid disease, reproductive issues and some cancers.

Few producers or users of PFAS face potential liabilities as great as the U.S. military, which has already spent more than $200 million over the past half-decade to start investigations of chemical family members perfluorooctane sulfonate, or PFOS, and perfluorooctanoic acid, or PFOA, at more than 400 military bases across the country. Both chemicals, particularly PFOS, were ingredients in firefighting foams used widely by the military during training and emergencies since the 1970s.

There are thousands of PFAS chemicals, but PFOS and PFOA are believed to be among the most harmful, and are the only two for which the Environmental Protection Agency has set an advisory limit for drinking water.

To date, the military has focused on filtering drinking water containing PFAS above the EPA's advised limit of 70 parts per trillion, after finding the chemicals in excess of that limit in more than 560 private and public drinking water supplies around 50 bases. But impacted communities worry continued environmental contamination is impacting wildlife, property values, municipal taxes and even human health.

"There's been very little focus to date on cleanup standards or cleanup guidelines," said Rob Bilott, an Ohio attorney who has litigated PFAS issues for decades. "Once you've stopped the ongoing exposure to people . what do you do with what's left? And that's a much, much bigger issue."

Because the EPA has yet to set any formal PFAS regulations, an increasing number of state environmental agencies are taking matters into their own hands, creating their own standards to compel polluters to begin cleaning up the chemicals within their borders. In Pennsylvania, where some of the nation's highest PFAS levels have been discovered in Bucks and Montgomery Counties, regulators recently announced they would create a state drinking water standard, and lawmakers are mulling legislative solutions. New Jersey is further ahead, with regulators preparing to implement the lowest PFOS and PFOA drinking water standards in the country.

But in several cases where states already acted, the military is resisting or even taking the issue to court.

Erik Olson, a senior director at the Natural Resources Defense Council, noted the efforts appear to double back on promises made by Maureen Sullivan, a deputy assistant secretary for the environment at the Department of Defense, during a 2018 congressional hearing. Sullivan testified that state standards would be "rolled in" to the military's cleanup considerations at bases.

"The Defense Department is going back on its word . and appears to be arrogantly refusing to comply with state laws," Olson said. "This is a very worrisome trend."

On March 14, this news organization emailed the Department of Defense a list of questions about its efforts. Department spokeswoman Heather Babb responded Monday with statements that did not address many of the specific questions.

"DOD, like any federal agency engaged in certain activities, such as owning or operating a public water system, must comply with all federal, state, interstate, and local safe drinking water requirements, in accordance with the Safe Drinking Water Act," Babb wrote. "DOD takes our cleanup responsibility seriously. We work with regulatory agencies and local communities to ensure we can share information in an open and transparent manner."

States of controversy

Nowhere is the issue more contentious than in New Mexico, where the state Environment Department and the U.S. Air Force are suing each other over widespread PFAS contamination near two bases.

Last July, the state's Water Quality Control Commission added PFOS and PFOA to a list of regulated substances, after which its environmental department issued violations to Cannon and Holloman Air Force bases.

The notice at Cannon said the Air Force failed to sample some nearby water supply wells, was too limited in which PFAS it tested for, and failed to submit a proposal for extended testing of aquifer contamination. At Holloman, the second violation notice added that 137 ppt of PFAS had been detected at the nearby Apache Mesa Golf Course, a violation of the standard, and asked that a contingency plan be submitted.

In January, the Air Force submitted a letter to New Mexico saying it could not comply.

"Legal constraints limit the Air Force's authority and ability to investigate and mitigate PFAS compounds under the New Mexico Water Quality Act," the Air Force wrote.

A week later, the Air Force filed a suit seeking relief in the U.S. District Court of New Mexico, calling the state standard "arbitrary, capricious, an abuse of discretion, and not supported by substantial evidence."

On March 5, New Mexico filed its own suit in the same court against the Air Force and United States, seeking a declaration the Air Force had violated its law, would have to comply, and would be held liable for applicable fines and penalties. The cases are ongoing.

There is similar contention in Michigan, where environmental regulators say the Air Force is violating state standards near the former Wurtsmith Air Force Base, as PFAS seeps into nearby waterways and marshes. To combat the issue, Michigan created a 12-ppt PFOS standard for groundwater where it enters surface water, and a 70-ppt standard for aquifers that are used for drinking water.

Citing the regulations in early 2018, Michigan's Department of Environmental Quality issued a notice of violation to the Air Force for failing to install a water treatment system. After some resistance, the Air Force agreed to construct the unit.

But a second violation issued in October received greater resistance. Again citing the water standards, the Michigan department told the Air Force to increase treatment of groundwater, expand the area needing treatment, conduct monthly sampling and stop pumping PFAS-laden water into a pit.

In December, the Air Force issued a letter stating it would not comply for various reasons, including that it had not waived sovereign immunity and that the chemicals do not appear on a list of hazardous substances under the federal Superfund law.

"That's their way of fighting back," Arnie Leriche, a veteran and retired environmental engineer with the EPA who lives near the base, said in a conference call with an environmental organization in March.

Scott Dean, a spokesman for the Michigan department, said the agency isn't backing down.

"The slow response by the Air Force to the Wurtsmith contamination is having an increasingly negative impact on the people, wildlife and environment," Dean said. "Although Michigan seeks to work cooperatively with the Air Force, slow response to PFAS contamination is not acceptable."

New York has faced similar issues. In 2016, the state Department of Environmental Conservation added several PFAS sites, including Stewart Air National Guard Base, to its list of state Superfund sites. It then spent approximately $50 million to provide clean drinking water to the city of Newburgh, located near the base.

The conservation department submitted a claim to the Department of Defense for reimbursement, but said it had not received a response as of late February. The state also filed a claim under the Federal Torts Claims Act, a precursor to potential legal action, and demanded the military enter into a robust cleanup program. The Air National Guard declined.

"In absence of needed federal action, New York is continuing to ensure aggressive actions are taken to protect the residents of Newburgh," conservation department spokesperson Jomo Miller said.

Alan Knauf, an attorney representing Newburgh in a lawsuit against the military, said residents want the Air National Guard to pay for connection to an aqueduct

that carries pure water from the Catskill Mountains to New York City, as opposed to using PFAS-laden water from nearby Washington Lake.

"Try telling people on the East Side of Manhattan they have to drink toxic water that goes through a filter that might not catch everything," Knauf said. "I don't think so."

Issues also are coming to a head in Colorado, where the Department of Public Health and the Environment last year added PFOS and PFOA to a state listing of hazardous constituents. The state also created a 70-ppt groundwater standard for the aquifer underlying Peterson Air Force Base near Colorado Springs.

In a letter, the Air Force warned regulators the water standard "may not qualify as a cleanup standard" because it does not apply across the whole state, and said its legal immunities are only waived "when state regulation is non-discriminatory."

State regulators have not issued any violations or orders under the statutes, but said they expect the Air Force to comply when it does begin cleanup activities.

Waiting on the feds

Several states hit by PFAS contamination say they want the EPA to create nationwide standards for the chemicals, and environmental attorneys say such measures would boost legal efforts.

"Failure to address PFAS at a national level will really put public health at risk," said Lisa Daniels, director of the Pennsylvania Department of Environmental Protection's Bureau of Safe Drinking Water, at a public meeting last year. "EPA must take a leadership role."

In February, EPA administrator Andrew Wheeler visited Philadelphia to announce a PFAS Action Plan, which included an "intention" to set a federal drinking water standard for PFOS and PFOA. Wheeler also revealed a proposal to declare the chemicals hazardous substances under the federal Superfund law, and touted a scheduled release of groundwater cleanup recommendations.

But the plan received lukewarm reception from several states that felt it lacked hard commitments or deadlines. Immediately following the Feb. 14 announcement, Pennsylvania became the latest state to say it would set its own standards, with a spokesman declaring the state "cannot wait" for the EPA.

Several attorneys said listing PFAS as hazardous substances under Superfund, the nation's primary law governing areas of major chemical contamination, would help most in pursuing cleanup actions.

"We have sued under (Superfund). We believe it's a hazardous substance, but you don't see it on the list," Knauf said of his efforts in Newburgh. "If it were put on the federal list that would tremendously help us."

Babb, from the Department of Defense, said the department also supports federal regulation.

"DOD supports EPA establishing regulatory standards and a consistent cleanup approach for PFOS/PFOA based on (Superfund)," Babb wrote in an email. "We want a standard risk-based cleanup approach that is based on science and applies to everyone."

Some attorneys say they think the EPA already has authorities it could use more aggressively.

Tim Bergére, an environmental attorney with Philadelphia's Montgomery McCracken Walker & Rhoads, pointed out that the EPA previously used an "imminent and substantial" endangerment clause under the Safe Drinking Water Act to compel the military to act on PFAS at the Naval Air Warfare Center Warminster and Horsham Air Guard Station. The EPA has issued eight such orders for PFAS nationwide.

Bergére added that many states have laws that are more stringent than federal standards and aren't limited by sovereign immunity, such as a Clean Steams Law in Pennsylvania that he says could be used to force the cleanup of PFAS around the bases in Bucks and Montgomery Counties.

"The Navy's sovereign immunity . does not extend to discharges once they move off the site," Bergére said.

Other attorneys said states can generally use powers delegated by the EPA to force actions by polluters, including through the issuing of water discharge permits under the federal Clean Water Act and the oversight of hazardous waste removal.

"Since the feds are not doing anything, the states have the authority, and we think, frankly, the obligation to step into the vacuum," the NRDC's Olson said.

But the Department of Defense's recent actions underscore the pitfalls of states taking the lead. In New Mexico, regulators sought to force the Air Force to take action based on a federally-delegated hazardous waste authority. The Air Force responded by arguing in court that the state incorrectly applied the law.

Adam Sowatzka, an attorney with the Atlanta-based firm King & Spalding and a former EPA lawyer, said federal regulations are needed to ensure a strong legal case. Without such standards, even the EPA has to go to great lengths to make an effective argument while using emergency powers, he said.

"If you look at what EPA has to do, and all the administrative hurdles, and the case it needs to develop to bring an imminent and substantial endangerment (order), it's a very, very difficult task," Sowatzka said.

The ability of states to compel action could be tested again soon, with the New Jersey Department of Environmental Protection on track to institute drinking water standards of 13 ppt for PFOS and 14 ppt for PFOA within a year. Those levels would be the strictest in the nation.

Under New Jersey law, the levels also would become groundwater standards, and spokesman Larry Hajna said his department believes the military would have to

comply while cleaning up sites like the massive Joint Base McGuire-Dix-Lakehurst in the center of the state.

However, there are signs of potential issues. In 2018, the U.S. Air Force commented on a state department of environmental protection standard for a chemical cousin, perfluorononanoic acid, or PFNA, questioning its legitimacy.

"Standards based on poor scientific methodologies are often the subject of litigation because they are arbitrary," the Air Force wrote.

There is no evidence the Air Force acted on the warning, but PFOS and PFOA present much greater liabilities than PFNA, which was not a major ingredient in firefighting foams. New Jersey also recently implemented interim groundwater standards of 10 ppt for PFOS and PFOA, and a spokesman said the state expects the Air Force to comply. An Air Force spokeperson said the agency is still reviewing the standard.

Anthony Spaniola, a Michigan attorney who has tracked state PFAS issues, said he thinks states that are expecting automatic compliance with their laws are in for a surprise.

"They're wrong," Spaniola said. "Those states better get their head out of the sand."

The crawl of cleanup

Environmental attorneys said there is also room for legal jousting as the military decides to what extent, and how quickly, it will clean PFAS from the environment. That's because while EPA typically has broad authority to drive cleanup at contaminated sites, federal law puts the Department of Defense in the driver's seat at military bases.

"Fundamentally, EPA and DOD are part of the 'unitary executive,' meaning EPA can't take DOD to court and so doesn't have the same leverage as it would at a private site," Taly Jolish, a recently retired Superfund attorney for EPA in California, said.

In several cases where states have created their own environmental standards, the military has said it will consider the limits as "ARARs." Short for Applicable or Relevant and Appropriate Requirements, the acronym refers to a process under the federal Superfund law that determines to what level a polluter must clean up a chemical in water or soil.

Several attorneys agreed the EPA or state regulators typically have authority in selecting an ARAR level for an unregulated chemical at a contaminated site. While some experts said regulators still have to sign off on such decisions at military bases, those with experience in the area say disagreements get messy.

"It becomes basically a political knife-fight between DOD and EPA," Olson said.

Jolish also said such decisions are "very political determinations."

Tensions between the EPA and military apparently already exist. On March 13, U.S. Sen. Tom Carper, D-Delaware, authored a letter in which he cited sources saying the military and other federal agencies were pressuring the EPA to relax draft groundwater cleanup recommendations from 70 ppt to 400 ppt. The numbers have not yet been released publicly, and Carper urged the EPA to resist the alleged pressure.

"Such levels would, among other consequences, subject fewer sites that were contaminated through the military's use of PFOA/PFOS from having to be remediated in the first place," Carper wrote.

Further complicating matters is that the EPA has even less authority to control how long it takes the military to make cleanup decisions, experts said. The issue is playing out at bases across the country, where the military has spent years studying the extent of the PFAS contamination but has done far less to actually remove the chemicals. Officials have commonly cited the need to do more studies before they reach the point of selecting an ARAR.

"I suspect the cause of delay at the federal level is the concern that the Department of Defense is going to have to spend hundreds of millions, and maybe even billions of dollars responding to these PFOS sites," said David Engel, an environmental attorney litigating PFAS in New York.

The Defense Department's Sullivan suggested in an early March congressional hearing that the department is holding off on containing PFAS releases until it further studies the issue. She also gave a "back of the envelope" estimate of needing $2 billion for PFAS cleanup.

"Right now we're trying to determine the extent of the presence in the groundwater around our bases, how far it is, where it's flowing. So we can design the right system to contain it," Sullivan said.

Babb, the department spokeswoman, said "DOD has proactively addressed PFOS and PFOA and follows the federal cleanup law."

"DOD's priority is to quickly address PFOS and PFOA in drinking water from DOD activities," she added.

The military is also pushing about $60 million into research on methods to better detect, understand and filter PFAS chemicals, with many studies not due until 2021. Jennifer Field, an Oregon State University PFAS expert whose work has been funded by the military, says there are about 50 ongoing projects, many of them looking for novel and cost-effective ways of destroying PFAS.

"There are definitely some higher-energy processes that look promising, but the problem is practical aspects have to be worked out," Field said. "I haven't heard of the stunning breakthrough that's going to revolutionize (cleanup). Not yet."

But Engel thinks the military can already act more robustly with current technologies, citing its $700 billion annual budget.

"Let's say it's a $10 billion (liability). My response is, 'So what?'" Engel said. "If the purpose of the Department of Defense is to defend the United States and the people living in it, you would think that a good thing for them to do would be to defend the people who are drinking water contaminated by these facilities."___

Military Times

Lawmakers seek treatments for veterans exposed to chemicals

https://www.militarytimes.com/news/pentagon-congress/2019/04/07/lawmakers-seek-treatments-for-veterans-exposed-to-chemicals/

Associated Press

Posted: April 7, 2019

TRAVERSE CITY, Mich. — Veterans with health problems caused by exposure to toxic chemicals known as PFAS would be eligible for federal health care services under legislation proposed in Congress.

The bill introduced Thursday would require the U.S. Department of Veterans Affairs to cover treatment for ailments related to PFAS, or per- and polyfluoroalkyl substances.

The chemicals are used widely as a water, stain and grease repellent. They're also a key ingredient in firefighting foams used for training exercises on military bases. Experts say they are linked to cancers and numerous other illnesses.

Among lawmakers sponsoring the bill are Sens. Debbie Stabenow and Gary Peters and Rep. Dan Kildee of Michigan.

They say many veterans have been exposed to the chemicals, along with people living near bases who may have drunk contaminated water.

Pesticides

Bloomberg Environment

Some Links to Cancer Shown in Draft Review of Common Pesticide

https://news.bloombergenvironment.com/environment-and-energy/some-links-to-cancer-shown-in-draft-review-of-common-pesticide

Adam Allington

Posted: 3:50pm, April 8, 2019

- <!--[if !supportLists]--><!--[endif]-->Federal draft risk evaluation of Roundup finds some cancer connections
- <!--[if !supportLists]--><!--[endif]-->Non-Hodgkin lymphoma, other health effects summarized across glyphosate studies

The legal questions and liabilities surrounding Bayer's Roundup weedkiller have gotten another piece of critical information.

On April 8, the Agency for Toxic Substances and Disease Registry, (ATSDR), part of the Department of Health and Human Services, released a long-awaited draft toxicological profile of glyphosate, the active ingredient found in Roundup weedkillers.

According to the report, "numerous studies reported risk ratios greater than one for associations between glyphosate exposure and risk of non-Hodgkin's lymphoma or multiple myeloma."

A risk ratio of greater than one means that being exposed to a certain substance increases risk of cancer, while a ratio less than one decreases risk.

Lawsuits Ongoing

The legal troubles that Bayer inherited following its 2018 purchase of Monsanto are continuing to unfold in a sprawling multi-district lawsuit containing more than 1,600 cases.

On March 19, a six-person jury in a San Francisco federal court found that Roundup was a "significant factor" in causing the non-Hodgkin lymphoma of 70-year-old Edwin Hardeman. The jury later awarded Hardeman $80 million in compensatory and punitive damages.

Throughout the proceedings, Bayer has maintained that glyphosate is safe to use and doesn't view the ATSDR report as proof one way or the other.

"We welcome another scientific perspective on what's the most studied substance of its kind, glyphosate," a Bayer spokesperson said in a statement to Bloomberg Environment.

The company said its experts are still reviewing the draft profile in full detail but that it continues to have confidence in the safe use of glyphosate, backed up by an extensive body of science, 40 years of real-world experience, and the conclusions of regulatory agencies.

"Including the U.S. Environmental Protection Agency, European Food Safety Authority, European Chemicals Agency, German BfR, and Australian, Canadian, Korean, New Zealand and Japanese regulatory authorities, as well as the Joint Food and Agriculture Organization/World Health Organization Meeting on

Pesticide Residues, confirm that glyphosate-based products are safe when used as directed and that glyphosate is not carcinogenic," the company said.

Growing Public Concerns

Last week, the House Science Committee sent a letter to ATSDR Director Patrick Breysse, asking for the status on the draft report, which has been in the works since 2015.

Environmental groups have questioned the science that regulators have used to approve glyphosate, arguing that it often doesn't reflect conditions that farmworkers and individuals are actually exposed to.

"The risks would've been found to be greater had they given sufficient weight to more realistic studies of people and test animals exposed to the full product, not just one chemical in Roundup," said Jennifer Sass, a senior scientist with the Natural Resources Defense Council.

Sass also points out that the ATSDR report raises the issue of endocrine, reproductive, and developmental concerns "that are not being addressed in some of the high-profile litigation that's grabbing headlines," she said.

Despite the correlation to increased risk of cancer, the ATSDR document also reported that the associations "were statistically significant only in a few studies."

"There does seem to be an effect. It's not a large risk [of NHL] but it's there based on what ATSDR has found," said Tina Levine, a former manager in EPA's Office of Pesticide Programs, where she ran the Health Effects Division.

"That said, consumer exposures are likely to be very different from professional applicators," she added.

The draft is available for public comment on the Federal Register until July 8.

To contact the reporter on this story: Adam Allington in Washington at aallington@bloombergenvironment.com

To contact the editors responsible for this story: Gregory Henderson at ghenderson@bloombergenvironment.com; Steven Gibb at sgibb@bloombergenvironment.com; Rob Tricchinelli at rtricchinelli@bloombergenvironment.com

The Epoch Times

Worried About Pesticide Exposure? Here's What Your Need to Know

The Epoch Times: Worried About Pesticide Exposure? Here's What Your Need to Know

Shawn Radcliffe

Posted: April 8, 2019

The Trump administration is pushing for a change in how the Environmental Protection Agency (EPA) decides which pesticides and other chemicals are harmful to people.

The government's proposal, called Strengthening Transparency in Regulatory Science, would limit the use of human epidemiological studies in the EPA's rule-making.

Supporters reportedly say the move would make the data from these studies more publicly available.

But critics contend that it would pressure researchers to release the identities of study participants, a tactic used by the tobacco industry to undermine research on the hazards of smoking.

The rule is still under review, but some health experts say we already know enough about the dangers of pesticides to act, especially when it comes to protecting kids.

"While evidence is conflicting about some of the long-term effects of pesticides on children, there's enough evidence to warrant further research into the use of pesticides. In the meantime, [we can] limit the exposure of children to such chemicals," said Dr. Amanda Fifi, a pediatric gastroenterologist, and nutrition specialist at the University of Miami Miller School of Medicine.

The health effects of pesticides depend on the chemical, how much you're exposed to, and for how long. Potential risks include cancer and problems with the nervous system or hormones.

Fifi said children are more at risk than adults "because their growing bodies are more susceptible to the effects of toxins."

Kids also eat more food per pound of body weight than adults, so they get a bigger "dose" of pesticides in food.

And they're more likely to pick up pesticides from contaminated floors, carpets, or lawns where they crawl or play, or from toys or other objects that they put in their mouth.

With a few simple steps, you can limit your and your family's exposure to potentially harmful pesticides.

Choose Safer Fruits and Vegetables

Fruits and vegetables are an important part of a healthy diet. But they can also be contaminated with pesticide residues, even after you wash or peel them.

The nonprofit Environmental Working Group (EWG) analyzed data from the U.S. Department of Agriculture and found that about 70 percent of samples of conventionally grown produce contained pesticide residues.

You can reduce your exposure by choosing organic produce—which is grown without the use of pesticides.

"Eat organic fruits and vegetables," said Fifi. "Kids fed organic fruits and veggies for a week had reduced urinary concentrations of pesticides after that week."

When organic isn't an option, EWG has a Shopper's Guide to help you choose conventionally grown produce with the lowest levels of pesticide residues.

EWG's 2019 Dirty Dozen list of items that contain the highest amounts of pesticide residues include:

- <!--[if !supportLists]--><!--[endif]-->strawberries
- <!--[if !supportLists]--><!--[endif]-->spinach
- <!--[if !supportLists]--><!--[endif]-->kale
- <!--[if !supportLists]--><!--[endif]-->nectarines
- <!--[if !supportLists]--><!--[endif]-->apples
- <!--[if !supportLists]--><!--[endif]-->grapes
- <!--[if !supportLists]--><!--[endif]-->peaches
- <!--[if !supportLists]--><!--[endif]-->cherries
- <!--[if !supportLists]--><!--[endif]-->pears
- <!--[if !supportLists]--><!--[endif]-->tomatoes
- <!--[if !supportLists]--><!--[endif]-->celery
- <!--[if !supportLists]--><!--[endif]-->potatoes

At the other end of the spectrum, the Clean 15 had relatively few pesticide residues:

- <!--[if !supportLists]--><!--[endif]-->avocado
- <!--[if !supportLists]--><!--[endif]-->sweet corn
- <!--[if !supportLists]--><!--[endif]-->pineapple

- <!--[if !supportLists]--><!--[endif]-->cabbage
- <!--[if !supportLists]--><!--[endif]-->onions
- <!--[if !supportLists]--><!--[endif]-->frozen sweet peas
- <!--[if !supportLists]--><!--[endif]-->papaya
- <!--[if !supportLists]--><!--[endif]-->asparagus
- <!--[if !supportLists]--><!--[endif]-->mango
- <!--[if !supportLists]--><!--[endif]-->eggplant
- <!--[if !supportLists]--><!--[endif]-->honeydew
- <!--[if !supportLists]--><!--[endif]-->kiwifruit
- <!--[if !supportLists]--><!--[endif]-->cantaloupe
- <!--[if !supportLists]--><!--[endif]-->cauliflower
- <!--[if !supportLists]--><!--[endif]-->broccoli

Fifi said that washing or peeling conventionally grown fruits and vegetables can get rid of some of the pesticides on them.

Likewise, trimming fat from meat can also eliminate unwanted pesticides.

But be aware. It is better to eat non-organic fruits and vegetables than replace these foods with processed foods. Process foods are also made with non-organic ingredients but also include preservatives, flavor enhancers, and stabilizers that come with additional and worse health risks.

Avoid Pesticides in Your Environment

Fruits and vegetables aren't the only sources of pesticides.

These chemicals also show up in insect repellents, pest control products, lawn and garden care products, and pet products. Many of these are used in and around home or school.

To reduce your risk, Fifi recommended that you limit your personal use of pesticides whenever possible.

For pest control, this can be done by "keeping surroundings clean, securing trash, manually removing weeds, and using mechanical traps," she said.

The American Academy of Pediatrics suggests on HealthyChildren.org that you store and use household and garden pesticides safely, including keeping them out of the hands of children.

Parents can also bring up the topic of pesticides at school and community meetings and "demand the limiting of pesticide use near schools and parks that children frequent," said Fifi.

Well water is another potential source of pesticides in the home.

"Up to 33 percent of underground wells used for major water supply were found to have detectable levels of pesticides," said Fifi.

If you drink from a well, you can have it tested for the presence of pesticides. Some states even offer free testing. More information can be found at the National Pesticide Information Center.

Be Safe on the Job

People who work with or around pesticides, such as agricultural or landscape workers, are especially at risk for exposure to harmful pesticides.

Additionally, their families can also face increased risk.

"Reports have found higher levels of pesticides in urine of kids whose parents worked in agriculture," said Fifi, "and also higher levels in kids living near agricultural plants."

Workers can take steps to reduce their exposure, including:

- <!--[if !supportLists]--><!--[endif]-->obeying signs to stay out of areas treated with pesticides
- <!--[if !supportLists]--><!--[endif]-->wearing long-sleeved shirts, long pants, and a hat or scarf while on the job
- <!--[if !supportLists]--><!--[endif]-->washing hands before eating, drinking, using the toilet, or talking on the phone
- <!--[if !supportLists]--><!--[endif]-->showering with soap and shampoo after work, then putting on clean clothes
- <!--[if !supportLists]--><!--[endif]-->washing work clothes separately from other clothes before wearing them again
- <!--[if !supportLists]--><!--[endif]-->taking work shoes off before entering the house to keep from bringing pesticides inside

If you have questions about common pesticide exposures, talk to your child's pediatrician. The National Capital Poison Center, whose 24-hour toll-free number is 800-222-1222, can also answer questions about acute exposures to pesticides.

PFAS

Bangor Daily News

Maine hospital lands $2.2 million for obesity study

https://bangordailynews.com/2019/04/08/business/maine-hospital-lands-2-2-million-for-obesity-study/

Lori Valigra

Posted: 10:00am, April 8, 2019

Maine Medical Center said Monday that it has received $2.2 million to study whether certain chemicals commonly found in household items may be contributing to obesity in teenagers and potentially making them more susceptible to osteoporosis later in life.

The grant, from the National Institute of Environmental Health Sciences, will study the effect of perfluoroalkyl and polyfluoroalkyl substances (PFAS) and phthalates on teenagers.

PFAS are synthetic chemicals added to clothing, furniture and carpets to make them non-stick and stain-repellent.

Phthalates are added to personal care products such as shampoos and lotions to retain scents. They also are used to improve flexibility in plastics.

Studies in animals suggest that these classes of chemicals may interfere with common biological pathways and increase the risk of both high body fat and low bone mineral density, according to MMC. Osteoporosis is a condition in which bones are less dense and more fragile.

“Adolescence is an important time when our bodies build up both bone and fat,” said principal investigator Dr. Abby Fleisch, a pediatric endocrinologist at MMC. “Few human studies have looked at how these chemicals in our environment could be impacting our fat accumulation and the health of our bones.”

The percentage of children and adolescents in the United States affected by obesity has more than tripled since the 1970s, according to the U.S. Centers for Disease Control and Prevention. Data from 2015-2016 show that nearly one in five school-aged children and young people between 6 to 19 years old in the United States is obese, meaning they have too much body fat.

The 500 teens in the study have been enrolled since birth in Project Viva, a longitudinal research study of mothers and children in Eastern Massachusetts. A longitudinal study makes repeated observations of the same conditions either short or long term.

The study will test for PFAS in samples of the teens' blood and for phthalates in their urine.

The researchers also will measure body fat and bone density using a special kind of X-ray machine.

Each child filled out food questionnaires that will help the research team investigate how much of the PFAS and phthalate exposure has come from diet and how much has come from the environment.

MMC said the hope is that this research could lead to ways to curb obesity and osteoporosis later in life.

The grant announcement comes one month after Maine Gov. Janet Mills announced the formation of a task force to study the impact of PFAS in Maine.

Chemical and Engineering News

The hunt is on for GenX chemicals in people

https://cen.acs.org/environment/persistent-pollutants/hunt-GenX-chemicals-people/97/i14

Cheryl Hogue

Posted: April 7, 2019

On a chilly day in November 2017, Beth Markesino sat in the county health department. She pushed up the sleeve of her sweater and extended her arm. A medical technician drew her blood. During her visit to the facility, Markesino spotted several people she knew and said hi to them. They were getting blood work done too.

They hadn't come for routine medical tests. Markesino and her neighbors in Wilmington, North Carolina, were giving blood samples so researchers could analyze them for more than a dozen fluorochemicals released by a Chemours plant 100 km away. Scientists had found a cocktail of unregulated industrial chemicals in the Cape Fear River, the source of their public drinking water. Scientists in 2016 reported finding per- and polyfluoroalkyl substances (PFAS) in that drinking water, despite it being treated by a local utility (*Environ. Sci. Technol. Lett.* 2016, DOI: 10.1021/acs.estlett.6b00398).

Markesino and others assembling at the health department in 2017 are among the more than 300 residents of the Wilmington area who volunteered to give blood and urine samples as part of a PFAS exposure study. North Carolina State University researchers are leading that investigation.

Many volunteers, including Markesino, were particularly worried about a chemical called GenX, which Chemours makes, then uses as a processing aid in the manufacture of fluoropolymers for nonstick coatings and other applications.

Scientists found that in water, the chemical GenX hydrolyzes into hexafluoropropylene oxide dimer acid (HFPO-DA), which was among the PFAS found in the treated drinking water.

GenX was introduced in 2009. Its inventor, DuPont, called it a "sustainable replacement" for the persistent, bioaccumulative, and toxic chemical perfluoro-octanoic acid (PFOA), which the company formerly used as a fluoropolymer processing aid. When DuPont spun off its fluorochemical business to form Chemours in 2015, the new company continued to make and use GenX at a factory outside Fayetteville, North Carolina. A growing body of studies suggests that HFPO-DA, like the well-studied PFOA, is linked to harmful effects in the liver and reproductive problems (*Environ. Health Perspect.*2019, DOI: 10.1289/EHP4372).

After the Wilmington newspaper the *StarNews* published a series of articles about the PFAS contamination in June 2017, Markesino sprang into action. She formed a Facebook group of Wilmington residents demanding clean drinking water. That group has since grown to include people across the US and in Australia living in other communities that face PFAS contamination. Markesino is now president of a nonprofit advocacy organization called North Carolina Stop Gen-X In Our Water. The group shares information about PFAS found in drinking water and, through its members' donations, has sponsored Wilmington-area billboards imploring Chemours, "Stop polluting our air, water and soil with your toxic chemicals."

Like many of their Wilmington neighbors, Markesino, her husband, and their now 6-year-old daughter stopped drinking their tap water in June 2017. The family now cooks, brews coffee, and brushes teeth with bottled water, Markesino tells C&EN. Her daughter carries two reusable bottles containing filtered water to school each day. Markesino has instructed her not to drink the school's water.

Markesino says her advocacy work and changing the source of the water her family consumed were empowering steps after the shock of learning about the PFAS contamination. But in the following months, worries increasingly gnawed at her. She thought about the training she'd done as a marathon runner, when she kept hydrated by sucking down liter after liter of what she now knows was tainted Wilmington tap water. And she grieved over Samuel, the baby she gave birth to in her 24th week of pregnancy in October 2016. She wondered if her son's death from kidney, bladder, and bowel malformation was connected to the PFAS in the water she drank.

"I'll never know what was in Samuel," Markesino says. But when NC State researchers sought volunteers for the exposure study, she signed up to find out about the PFAS in her own body.

After providing their blood and urine samples in late 2017, Markesino and the other volunteers in the GenX Exposure Study began waiting for the results. A team of researchers from NC State and East Carolina University analyzed the samples for 23 PFAS chemicals using mass spectrometry. These chemicals included HFPO-DA; by-products from the Fayetteville plant's operations that have been found in the Cape Fear River; fluorotelomers that are ingredients in

some firefighting foams; and so-called legacy PFAS, including PFOA, that are no longer made in the US.

Months passed.

In May 2018, Markesino joined 43 other study participants who volunteered for a second blood draw. The results would allow researchers to assess how long any PFAS found in the first samples stayed in their blood.

More months passed.

Meanwhile, in June 2018, a team led by Zachary R. Hopkins, a doctoral engineering student at NC State, published analyses of PFAS found in Cape Fear River water and in drinking water treated by the Wilmington utility during 2017 (*J.—Am. Water Works Assoc.* 2018, DOI: 10.1002/awwa.1073). The researchers detected a suite of fluorinated chemicals, some not identified in previous papers. They also found that the concentration of PFAS dropped sharply after Chemours began to capture HFPO-DA-containing process wastewater instead of discharging it into the river.

Finally, in November 2018, volunteers got envelopes in the mail with their blood test results. While individual data are confidential, the participants' combined results are public.

First, the study found no detectable HFPO-DA—the GenX chemical—in participants' blood.

Markesino felt relief. The GenX chemical "was the thing that everyone was so concerned about," she says.

"Because we could not detect GenX in blood samples, we know that GenX does not stay in the blood for very long," says a letter that participants received from the study's principal investigator, Jane Hoppin, an NC State environmental epidemiologist.

The study's limit of detection for this substance was 2 ppb in blood. In contrast, researchers routinely measure PFAS in water in parts per trillion.

Also, the analysis showed the volunteers' blood had no detectable amounts of two PFAS that are widely found in the environment: perfluorohexanoic acid, a breakdown product of stain- and grease-resistant coatings, and 6:2 fluorotelomer sulfonate, an ingredient in many aqueous film-forming foams used to fight liquid fuel fires and in coatings on food wrappers.

That was the good news.

The tests showed that Markesino and the other volunteers, like most people in the US, have PFOA and four other historically used PFAS in their blood. Wilmington-area residents in the study had 4.4 ppb of PFOA in their blood drawn in late 2017, while the US average was 1.5 ppb in the Centers for Disease Control and Prevention's 2013–14 National Health and Nutrition Examination Survey.

In addition, the results found that volunteers' bodies harbor four PFAS that scientists know little about. Chemours tells C&EN that all four of these substances are manufacturing by-products that are not produced for commercial purposes.

One of these four, which researchers call Nafion by-product 2, was in 99% of the blood samples analyzed. This chemical is a by-product of making Nafion, Chemours's sulfonated tetrafluoroethylene-based ionic polymers that are used for membranes in fuel cells, chlor-alkali production, and other applications. Nafion by-product 2 is a multiether sulfonic acid.

Participants' median blood concentration for Nafion by-product 2 was more than 2.5 ppb, the blood analysis found. The blood samples also contained the carboxylic acid form of Nafion by-product 2, an ester vinyl ether (EVE) called hydro-EVE acid.

This is in our river. It's in my body.

Beth Markesino, *Wilmington, North Carolina, resident and president of North Carolina Stop Gen-X In Our Water, referring to PFAS pollution*

Hopkins's NC State group also found Nafion by-product 2 in water samples. The water analysis team detected but did not report the presence of hydro-EVE acid in its peer-reviewed results, says Detlef Knappe, an NC State engineering professor and Hopkins's PhD adviser.

"We did not yet know what it was, and we did not have an analytical standard for it," Knappe tells C&EN. "But it was present in the water."

Epidemiologist Hoppin's team also found two other novel fluoroethers in the blood samples. Perfluoro-3,5,7,9-tetraoxadecanoic acid (PFO4DA) was in 98% of the samples. Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid (PFO5DoDA) was found in 87% of the samples. Volunteers' median blood concentrations were more than 2.0 ppb for PFO4DA and less than 0.5 ppb for PFO5DoDA.

At least one of those two perfluorinated chemicals was in the water too, Knappe says. "PFO5DoDA was likely present in the water at concentrations below our reporting limit." His lab is working to make its analytical method more sensitive in the hope of detecting this chemical, especially in older, stored samples of Cape Fear River water.

A few weeks before Markesino and the other volunteers gave their first blood samples, Chemours started capturing wastewater from its Nafion manufacturing processes. The company adopted this practice because North Carolina regulators revoked the plant's wastewater discharge permit for fluoroether production. The chemical maker now hauls this wastewater to Texas for disposal via deep-well injection, Chemours told North Carolina and the US Environmental Protection Agency in 2017.

After Chemours stopped discharging wastewater to the river, Hopkins's team saw levels of PFAS, including the Nafion by-product, drop sharply in the water—although they didn't disappear entirely. This suggests these chemicals may be

leaching out of river sediment or transported through stormwater runoff or contaminated groundwater, the team's paper says.

Meanwhile, Hoppin's team found that median blood levels of Nafion by-product 2, PFO4DA, and PFO5DoDA dropped in the 44 participants, including Markesino, who had their blood retested in May 2018.

Markesino says she is not surprised that fluorochemicals that she'd never heard of turned up in her blood. Instead, she says, "I'm surprised that the scientists knew how to detect them" in blood.

She's indignant that the novel industrial contamination was imposed on her family and her community without their knowledge or consent.

"This is in our river. It's in my body," she says of the PFAS pollution. "It's in our rain. It's in our dust. It's in our soil." She blames Chemours and its predecessor, DuPont; North Carolina regulators; and the US Environmental Protection Agency for the contamination in the Cape Fear River and, in turn, her and her neighbors.

What the blood test results portend for the health of Markesino and her neighbors is a looming question. When the results were mailed out, there were no published health or toxicology data for Nafion by-product 2, hydro-EVE acid, PFO4DA, or PFO5DoDA.

"Therefore, we cannot say what these results mean for your health," says Hoppin's letter to participants.

"It scares me," Markesino says of not knowing whether the levels of PFAS in her body are safe or pose a risk to her current and future heath.

Now, new data suggest her fear may have a scientific basis, at least for PFO4DA in mice. In March, a team led by Hua Guo of the Chinese Academy of Sciences published what the authors believe is the first study of the toxic effects of perfluoroether carboxylic acids, including PFO4DA. Their 28-day study in male mice showed PFO4DA caused harmful effects to the liver (*Environ. Sci. Technol.* 2019, DOI: 10.1021/acs.est.9b00148).

"Efforts to remove or at least decrease its [PFO4DA's] occurrence in drinking water should be made urgently," Guo and colleagues write in their paper.

Chemours says an independent laboratory has tested PFO4DA and PFO5DoDA along with eight other "PFAS waste substances" and found none displayed the potential to cause genetic mutations. A chemical's ability to alter genetic material is often linked to carcinogenicity. Chemours says it is committed to further testing of these and other PFAS.

Meanwhile, researchers in the exposure study are still analyzing urine samples that Markesino and her fellow study participants provided.

"I'm very anxious to see how those come back," she says.

The Progressive Pulse

Bills would crack down on polluters, set "precautionary" standard for PFAS and other emerging compounds

https://pulse.ncpolicywatch.org/2019/04/08/bills-would-crack-down-on-polluters-set-precautionary-standard-for-pfas-and-other-emerging-compounds/

Lisa Sorg

Posted: 11:00am, April 8, 2019

State environmental regulators would be required to set a standard of 10 parts per trillion for perfluorinated compounds, according to Senate Bill 518, introduced on Friday.

The "precautionary" 10 ppt trillion standard would be applied to any emerging compound for which there are no federal or state regulations. This would include GenX, 1,4-dioxane and the extended family of PFAS compounds.

Primary sponsors are Democratic Sens. Harper Peterson (New Hanover), Kirk deViere (Cumberland) and Floyd McKissick (Durham).

The bill would require DEQ to establish a PFAS task force to comprehensively assess emerging compounds in the Lower Cape Fear River Basin. The task force would conduct "non-targeted" testing for these compounds, of which there are thousands, in not only drinking water, lakes and groundwater, but also soil, air, dust, food and garden and farm products.

The Lower Cape Fear River Basin includes eight counties: Cumberland, Bladen, Brunswick, New Hanover, Sampson, Duplin and Pender.

The measure also directs DEQ to collaborate with the state department of health to study the concentrations of these chemicals in people living in the Lower Cape Fear River Basin.

The bill also would require DEQ to identify the responsible polluters. Those polluters, such as Chemours, that contaminate the public or private drinking water supply with PFAS would be required to pay for permanent replacement water, either through a home or building filtration system or connection to a public water

supply. The polluter would also have to cover the costs of periodic maintenance of a filtration system.

The requirement would kick in if the water supply contained 10 parts per trillion or more of a single PFAS compound, including GenX, and a cumulative total of 25 ppt for three or more of these compounds. These thresholds are stricter than the state's current health advisory goal of 140 ppt for GenX. Dozens of private drinking water wells near the Chemours plant in Bladen County have been contaminated with GenX and PFAS, some of them with levels of 1,000 ppt and higher.

The proposal is similar to the state's requirement that Duke Energy provide alternate water to households within a half-mile of the utility property where coal ash was stored in leaking, unlined pits.

The bill would also repeal the Hardison Amendment, which prohibits state agencies like DEQ from passing stronger regulations than those set by the federal government. (Under the Trump administration, that's a very low bar.) Lawmakers passed the amendment in the 1970s, but it was later repealed, only to rise from the dead and be reenacted in 2011, under a Republican majority.

A similar measure, House Bill 566, would require polluters to pay for all cleanup costs and alternate water supplies. This measure also targets Duke Energy, prohibiting the utility from passing along costs of managing and remediating coal ash to the ratepayers.
The measure would also empower DEQ to force a company to immediately stop discharging or emitting contaminants if the Secretary concludes they present an imminent threat.

Primary sponsors are Democratic Reps. Pricey Harrison (Guilford), Brian Turner (Buncombe), Ray Russell (Ashe, Watauga) and Rachel Hunt (Mecklenburg).

Toxic Chemicals

KERA News

3 Proposals To Help Avoid The Next Deer Park Chemical Plant Fire

https://www.keranews.org/post/3-proposals-help-avoid-next-deer-park-chemical-plant-fire

Mose Buchele

Posted: April 8, 2019

Lawmakers wrapped up two days of hearings Friday on a fire last month at a chemical storage facility in Deer Park. The fire at the plant owned by Intercontinental Terminals Co. burned for days, spewing millions of pounds of toxic chemicals into the air and forcing residents indoors.

At the hearing this week some of the questions and testimony focused on how a change in laws might help avoid a similar disaster in the future. Here are three proposals that came up.

Intercontinental Terminals is facing multiple lawsuits because of the fire. But it's not the first time the company has been sued, Rock Owens, Harris County's lead environmental prosecutor, told state senators Thursday.

Owens said he'd already sued Intercontinental Terminals twice for breaking environmental rules. But the maximum fines it paid don't appear to have made its facility any safer.

"We've had multiple violations by these companies and the penalties that have been assessed ... just hasn't been enough to get people to stop doing what they need to stop doing," he said.

On Friday, state Rep. Mary Ann Perez (D-Pasadena) said the fact that local officials did not initially know what chemicals were burning at the facility was "very disturbing."

The question of what chemical storage facilities should disclose and to whom gained urgency after the 2103 explosion of a fertilizer plant in West, Texas, that killed 15 people.

In response, the Obama administration issued federal guidelines strengthening some disclosure rules. Those guidelines were rolled back last year by the Trump administration, however.

At the state level, Gov. Greg Abbott has long opposed loosening public access to information about where dangerous chemicals are stored.

Perez asked Toby Baker, executive director of the Texas Commission on Environmental Quality, if his agency had any authority to require safe-design standards for chemical storage tanks.

The answer was no.

"As far as bulk terminals like this, the statutes actually provides an exemption for those facilities," he said.

Public health groups have been calling for giving the state the ability to require stronger and safer chemical storage tanks after tank ruptures and leaks occurred during Hurricane Harvey.

State Sen. Nathan Johnson (D-Dallas) filed a bill this session to help achieve that.

When pressed on whether his agency would like the authority to regulate chemical storage design standards, Baker said it's something "someone should take a look at."

9 news

Factory operator 'had chemical drum explode in his face' in toxic Melbourne inferno

https://www.9news.com.au/national/news-melbourne-factory-fire-toxic-warehouse-waste-management/d17ed2e1-c1f2-4731-87cc-af9d73b3ee7a

9News Staff

Posted: 8:54am, April 6, 2019

A worker who had been inside a waste management factory in Melbourne that erupted into a blazing inferno had a chemical drum explode in his face in the incident.

Vigneshwaran Vasantharajan had been working to remove dangerous waste from the Campbellfield factory yesterday when the fire was first sparked.

One of Mr Vasantharajan's friends, who had finished his own shift at the factory just before the fire started, told 9News the man had to be rushed to hospital with severe burns by a truck driver.

<image002.png>Vigneshwaran Vasantharajan had been working to remove dangerous waste from the Campbellfield factory yesterday when a chemical drum exploded in his face. (9news)

"(They were) on his left side, from his ears and cheek and everywhere got injured," Vasantharaj Vasanthakumar said.

The factory fire is tonight continuing to burn amid revelations its owner is linked to four other warehouses stocked with toxic waste.

Crews are working this weekend to manage the fire, which started about 6.40am yesterday and sent a toxic black plume over Melbourne.

<image002.png>Mr Vasantharajan's friends say he remains in a stable condition in hospital after having large sections of his face severely burned in the blaze. (9NEWS)<image002.png>They have also said he expressed his concern about working at the site, after other smaller fires previously broke out there. (9news)

It was brought under control by midday yesterday but is expected to burn for days with two workers hospitalised, one of whom remains in an induced coma.

It comes as *The Age* reported that Bradbury Industrial Services controls illicit stockpiles of chemicals found at four other warehouses in March.

The news has sparked fears more fires could erupt.

<image002.png>The factory fire is tonight continuing to burn amid revelations its owner is linked to four other warehouses stocked with toxic waste. (9news)

The Campbellfield factory had been storing almost three times the quantity of chemical permitted, the EPA found.

Operators of the Campbellfield business had their licence suspended by the Environmental Protection Agency in March.

The company had been repeatedly found storing excess highly-flammable material.

<image002.png>Operators of the Campbellfield business had their licence suspended by the Environmental Protection Agency in March. (AAP)

The factory is allowed to hold a maximum 150,000 litres of waste material, including solvents, inks, paints and other flammable materials, before being processed.

Mr Vasantharajan's friends have since said he told them he didn't feel safe working at the factory, revealing there had been other smaller fires in the past.

"They know that it's not safe to work there, but all the other jobs they got are far from this place," Mr Vasanthakumar said.

Witnesses reported a number of explosions as the inferno spewed large volumes of black smoke.

Nearby businesses were forced to evacuate.

It took 175 firefighters to bring this blaze under control and 11 schools in this local area were shut down.

<image002.png>Witnesses reported a number of explosions as the inferno spewed large volumes of black smoke. (AAP)

No students were attending school in this area yesterday and thick black toxic smoke blanketed most of the city.

Merlynston creek has been contaminated by run-off.

Victorian Coroner Darren Bracken attended the site on Friday and will investigate the cause of the blaze.

Premier Daniel Andrews said there were no suspicious circumstances.

Meanwhile, Mr Vasantharajan remains in a stable condition in hospital after regaining consciousness overnight and briefly speaking with friends this morning.

His recovery is expected to take some time

Toxics Data

Bloomberg Environment

EPA Watchdog Raises Alarm on Toxic Chemical Release Reports

https://news.bloombergenvironment.com/environment-and-energy/epa-watchdog-raises-alarm-on-toxic-chemical-release-reports

Sylvia Carignan

Posted: 1:30pm, April 8, 2019

- <!--[if !supportLists]--><!--[endif]-->Chemical releases from public sewage treatment plants are left out of online database
- <!--[if !supportLists]--><!--[endif]-->Release data focuses on chemicals that could cause harm

Municipal sewage treatment plant releases were left out of the EPA's online inventory of the volume of toxic chemicals released into the environment each year, the agency's inspector general reported April 8.

Chemicals in the Environmental Protection Agency's Toxic Release Inventory could cause cancer or other serious health effects.

Companies and other organizations that release toxic chemicals into the environment, or recycle or recover them, must report the amounts to the agency.

The EPA's online Toxic Release Inventory for the years 2013-2017 doesn't "properly include" releases from publicly owned treatment works, which are sewage treatment plants owned by a government agency, the inspector general found.

As a result, communities or researchers "will not always have accurate or consistent information regarding releases of the hazardous substances" from those treatment plants, which could "significantly impact" human health and the environment, the inspector general said in its letter to EPA leadership.

Tracking Releases

The EPA "developed and deployed corrections within three business days of the concerns being relayed to us by OIG staff," a spokesman for the agency said in an email. "Additionally, EPA has determined that the glitches did not impact the recently released 2017 National Analysis."

The overall volume of chemicals discharged, released, or emitted into the environment increased from 2016 to 2017, largely due to an uptick in chemical waste in landfills and other land disposal, the agency said in its Toxic Release Inventory national analysis, announced March 5.

The EPA's Toxics Release Inventory tracks the permitted release and disposal of about 650 chemicals, including metals such as lead and mercury, dioxin compounds, and hazardous air pollutants such as hydrochloric acid.

To contact the reporter on this story: Sylvia Carignan in Washington at scarignan@bloombergenvironment.com

To contact the editors responsible for this story: Gregory Henderson at ghenderson@bloombergenvironment.com; Jean Fogarty at jfogarty@bloombergenvironment.com; Renee Schoof at rschoof@bloombergenvironment.com

Bloomberg Environment

EPA Watchdog Raises Alarm on Toxic Chemical Release Reports

https://news.bloombergenvironment.com/environment-and-energy/epa-watchdog-raises-alarm-on-toxic-chemical-release-reports

Sylvia Carignan

Posted: 1:30pm, April 8, 2019

- <!--[if !supportLists]--><!--[endif]-->Chemical releases from public sewage treatment plants are left out of online database
- <!--[if !supportLists]--><!--[endif]-->Release data focuses on chemicals that could cause harm

Municipal sewage treatment plant releases were left out of the EPA's online inventory of the volume of toxic chemicals released into the environment each year, the agency's inspector general reported April 8.

Chemicals in the Environmental Protection Agency's Toxic Release Inventory could cause cancer or other serious health effects.

Companies and other organizations that release toxic chemicals into the environment, or recycle or recover them, must report the amounts to the agency.

The EPA's online Toxic Release Inventory for the years 2013-2017 doesn't "properly include" releases from publicly owned treatment works, which are sewage treatment plants owned by a government agency, the inspector general found.

As a result, communities or researchers "will not always have accurate or consistent information regarding releases of the hazardous substances" from those treatment plants, which could "significantly impact" human health and the environment, the inspector general said in its letter to EPA leadership.

The EPA "developed and deployed corrections within three business days of the concerns being relayed to us by OIG staff," a spokesman for the agency said in an email. "Additionally, EPA has determined that the glitches did not impact the recently released 2017 National Analysis."

The overall volume of chemicals discharged, released, or emitted into the environment increased from 2016 to 2017, largely due to an uptick in chemical waste in landfills and other land disposal, the agency said in its Toxic Release Inventory national analysis, announced March 5.

The EPA's Toxics Release Inventory tracks the permitted release and disposal of about 650 chemicals, including metals such as lead and mercury, dioxin compounds, and hazardous air pollutants such as hydrochloric acid.

To contact the reporter on this story: Sylvia Carignan in Washington at scarignan@bloombergenvironment.com

To contact the editors responsible for this story: Gregory Henderson at ghenderson@bloombergenvironment.com; Jean Fogarty at jfogarty@bloombergenvironment.com; Renee Schoof at rschoof@bloombergenvironment.com

E&E News

Watchdog finds inaccuracies in EPA toxics data

https://www.eenews.net/greenwire/stories/1060149541/search?keyword=EPA

Courtney Columbus

Posted: April 8, 2019

As part of an ongoing audit, EPA's inspector general has found discrepancies in some of the agency's data on industrial chemical releases.

Because of issues with the Toxics Release Inventory data, "the public is not receiving complete and timely information about environmental conditions affecting human health," said an alert from the IG's office.

The missive is dated today and addressed to Alexandra Dunn, assistant administrator for chemical safety at the agency.

The **report** found "discrepancies between 1) the total pounds of chemicals released to the environment as reported in the publicly available TRI data for reporting years 2013-2017 and (2) the information that the EPA provided to us separately on the total pounds of chemicals released."

The document says findings "led to the EPA's discovery that total release calculations provided by the publicly available database do not properly include the [publicly owned treatment works] release amounts."

EPA released its 2017 Toxics Release Inventory report last month. Total releases went up by 13% compared with 2016. Off-site disposal of toxics into air and water increased, while on-site releases decreased (*Greenwire*, March 5).

The IG's office asked EPA to respond to its report within 15 days, including information on the Office of Chemical Safety and Pollution Prevention's plans to correct the inaccuracies found and to "disclose the degree to which the discrepancies identified impact the public reporting of TRI releases."

An EPA spokesman downplayed the problems raised by the Office of Inspector General and defended the 2017 figures it released last month.

A statement said, "The Agency developed and deployed corrections within three business days of the concerns being relayed to us by OIG staff. Additionally, EPA has determined that the glitches did not impact the recently released 2017 National Analysis."

The IG's office said it is continuing to review the Toxics Release Inventory data.